

REMARKS

Claims 1, 4 and 9-12 are all the claims pending in the application. Claims 1, 4, and 9-12 presently stand rejected.

I. Formalities:

The Examiner has now acknowledged Applicant's claim to foreign priority and has indicated receipt of the certified copy of the Priority Document.

The Examiner has returned the initialed Form PTO/SB/08 filed with the Information Disclosure Statement on December 8, 2003.

The Examiner has not indicated any objection to the drawing figures filed on June 16, 2004.

II. Prior Art Rejections:

Claim 1 is rejected under 35 U.S.C. § 102(e) as being anticipated by newly applied Kitano et al. (6,465,876).

Claims 4 and 9-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kitano et al. (6,465,876) in view of Nakamura (6,313,526).

Analysis

Kitano is directed to forming a semiconductor device.

The alleged carrying support films 6 or 9 are not similar to the carrying support film of the claimed invention. The alleged carrying support film 6 is actually a discrete metal plate for holding a single semiconductor element. Col. 5, lines 38-40 and lines 46-47 explain that the "outer periphery of the metal plate 6 projects outward from the outer periphery of the insulating tape 3" and "cut planes of the insulating tape 3, adhesive 20, and metal plate 6 on the side wall

1a align with each other”. At col. 6, lines 14-18 describes how “the lead frame 9 and the insulating tape 3 are cut and separated along a dot-and-dash line A-A...into individual semiconductor devices, wherein the metal plate 6 corresponding to each semiconductor element is formed.” Moreover, FIG. 4 illustrates that after the lead frame 9 is cut, the semiconductor element is disposed on the metal plate 6.

The other embodiments similarly disclose that a separate metal plate 6 is provided for each element.

Therefore, the metal plate 6 does not have mounting portions on which flexible wiring boards are mounted at regular intervals.

Alternatively, the alleged carrying support film 9 is actually a lead frame having a plurality of holes 9a, 9b for housing the semiconductor elements 1. Col. 6, lines 1-10, explains that “the semiconductor elements are loaded into the holes 9a and 9b.” See also, FIG. 3.

However, since the alleged individual pieces of flexible wiring boards (insulating base layer 3 and electric conductor layer 4) are also formed with corresponding holes 3a, 3b, 3c (see especially FIG. 6 with separate pieces 3 having holes 3a), the entire surface for mounting the film to the board is limited to the periphery of the holes on the film and the board.

Applicants amend claim 1 to clarify the structure of the invention wherein the mounting portion of the film has no holes. That is, an interior area defined by an outer perimeter of the mounting portion is formed without holes. This feature is illustrated in FIG. 4B and discussed on page 18 of the originally filed specification. As discussed in the specification, this structure provides the benefit of having a uniform thickness for the adhesive agent.

One of ordinary skill in the art would not have been motivated to modify Kitano to have this structure in view of Nakamura, since Nakamura also discloses that holes are formed in the mounting portion.

Still further, one would not have been motivated to modify Kitano because Kitano *specifically discloses* that the holes in the lead frame 9 and the holes in the insulating tape 3 allow for the semiconductor elements 1 to be housed therein.

Specifically, Kitano discloses (col. 6, lines 1-10) that the inner end of the wiring pattern 4 projects from the inner periphery of the holes 9a, 9b and holes 3a, 3b so that the semiconductor element 1 is housed in the holes from the bottom of the lead frame 9 and the inner end of the wiring pattern 4 is not damaged. In fact, all the embodiments of Kitano include holes in the insulating tape and the lead frame, for holding the semiconductor element.

In view of the foregoing, Kitano fails to disclose the structure of amended claim 1, and moreover, one of ordinary skill in the art would not have been motivated to modify Kitano to arrive at the claimed invention according to claim 1.

The remaining rejections are directed to the dependent claims. These claims are patentable for at least the same reasons as claim 1, by virtue of their dependency therefrom.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Appln. No. 10/728,911

Attorney Docket No.: Q78886

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: October 31, 2007